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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LARRY B. MCALLISTER, JR., DWIGHT W.
SCHWARK, LARRY W. BOYTER and
BLAINE C. CHILDRESS

Appeal 2009-003352
Application 10/648,027
Technology Center 1700

Decided: August 18, 2009

Before CHUNG K. PAK, TERRY J. OWENS, and PETER F. KRATZ,
Administrative Patent Judges.

OWENS, *Administrative Patent Judge.*

DECISION ON APPEAL
STATEMENT OF THE CASE

The Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 7, 8, 10-15, 17-22, 26 and 27, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

The Invention

The Appellants claim a multilayer film. Claim 14 is illustrative:

14. A multilayer film comprising:
 - a) a first and second outer layer each comprising a polymer; and
 - b) a substrate layer comprising a polymer;

wherein each of

- i) the first outer layer,
- ii) the second outer layer , and
- iii) the substrate layer,

comprises a primary fatty amidic wax;

wherein the first outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the substrate layer; and the second outer layer comprises primary fatty amidic wax in an amount of 15% to 50% of the amount of primary fatty amidic wax in the substrate layer;

wherein at least one of

- i) the first and second outer layers, and
- ii) the substrate layer

comprises from 1,000 ppm to 7,000 ppm of a transition metal salt of stearic acid, or ester of stearic acid; and

wherein the substrate layer comprises from 4,000 ppm to 10,000 ppm of oleamide.

The References

Schoenberg	4,514,465	Apr. 30, 1985
Longmoore	6,497,965 B1	Dec. 24, 2002
Plume	6,846,863 B2	Jan. 25, 2005
	(§ 371 (c)(1), (2), (4) date Dec. 18, 2002)	

The Rejections

Claims 7, 8, 10-15, 17-22, 26 and 27 stand rejected under 35 U.S.C. § 103 over Schoenberg in view of Longmoore, Plume and the Appellants' admitted prior art.

OPINION

We reverse the Examiner's rejection.

Issue

Have the Appellants shown reversible error in the Examiner's determination that the applied prior art would have rendered prima facie

obvious, to one of ordinary skill in the art, a multilayer film comprising 1) first and second outer layers separated by a substrate layer, each layer comprising a primary fatty amidic wax, the outer layers comprising 15 to 50% of the amount of primary fatty amidic wax in the substrate layer (claim 14), or 2) in order, a first outer layer, a first substrate layer, a core layer, a second substrate layer, and a second outer layer, each of the outer layers and substrate layers comprising a primary polyamidic wax, each of the first and second outer layers comprising 15 to 50% of the amount of primary fatty amidic wax in its respective substrate layer (claim 7)?

Findings of Fact

The Appellants acknowledge that it was known in the art that:

- 1) “Amide waxes have been used for many years as slip agents in the production of films. Chemically, the waxes are primary, secondary, tertiary, or bis fatty amides, such as oleamide and erucamide.” [Spec. 1:29-31]
- 2) “When the host polymer is in a molten state (during extrusion), waxes can migrate more freely through the host polymer. Waxes migrate through a host polymer in solid state as well, but at a much slower rate. [Spec. 1:39-41]
- 3) “Producers of polymeric film also operate on a second principle that packaging applications typically require a film with a low coefficient of friction (COF).” [Spec. 2:5-6]
- 4) “A problem encountered in this [extrusion] process is that at the extrusion die, a significant amount of wax migrates to the surface of the just emerging tubing as the precursor film contacts film making equipment located downstream of the extrusion die.” [Spec. 2:28-30]

Schoenberg discloses a five-layer film having 1000-2000 ppm of slip agent, which can be erucamide, in its surface layers (col. 17, ll. 39-40; col. 17, l. 61 – col. 18, l. 4). Schoenberg discloses that “[a]dditional layers and/or minor amounts of various additives of the types described above [anti-blocking agent, slip agent, polydimethylsiloxane and antioxidant] may be added to the film structure of the present invention as desired but care must be taken not to adversely affect the desired physical properties and other characteristics of the inventive film” (col. 18, ll. 14-19).

Longmoore discloses that the fatty acid amides most widely used as slip agents for commercial polypropylene films are erucamide and behenamide (the saturated analog of erucamide) (col. 1, ll. 22-27).

Longmoore discloses:

The slip agents of the prior art such as erucamide or behenamide are sufficiently volatile that a measurable portion of them always migrates from the interior of the film and forms a layer of slip agent on the film’s surface, whether the film is a composite or a monolayer. [col. 4, ll. 14-18]

...

In prior art practice, slip agent is frequently incorporated into the core layer of composite films, which are then heat treated to force it to migrate to the surface layers. In other cases, if the slip agent is present only in a surface layer, it tends to migrate into the core layer although, as a rule, it is not needed there. In either case, this migratory tendency results in slip agent being present in locations where it is not needed. Moreover, it also requires the use of greater quantities of slip agent than are needed in order to assure that sufficient quantities are present in the area where the real need exists.

It has been found that the slip agents of this invention exhibit a very low tendency to migrate between layers or even within a layer of the film. Thus, a slip agent incorporated in a surface layer does not migrate into the core layer, nor does it migrate and accumulate on the

surface of a layer as do the slip agents of the prior art. [col. 4, ll. 30-53]

Longmoore's slip agents are N,N'-bis-fatty acid amides having a general structural formula $R-CO-NH-(CH_2)_n-NH-CO-R'$, where R and R' are the same or different alkyl or alkenyl groups having about 15 to 21 carbon atoms, n is an integer from 2 to 4 and -CO- is a carbonyl group (col. 3, ll. 60-66).

Plume discloses a shaped polyethylene article such as a screw cap comprising saturated fatty acid amide and other lubricants (col. 1, ll. 5-8; col. 2, ll. 8-22; col. 4, ll. 2-9). The article also can contain, as an antacid, a fatty acid salt such as zinc stearate or calcium stearate (col. 3, ll. 3-9).

Analysis

Establishing a prima facie case of obviousness of an invention comprising a combination of known elements requires "an apparent reason to combine the known elements in the fashion claimed." *KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

The Appellants argue that Schoenberg's disclosure regarding slip agents pertains only to the surface layers, and that Longmoore teaches away from erucamide and behenamide and instead uses an N,N'-bis-alkylene fatty acid amide which is not a primary fatty amidic wax (Br. 13-14; Reply Br. 4).

The Examiner argues that Schoenberg's disclosure that additives of the types such as an anti-blocking agent, slip agent, polydimethylsiloxane and antioxidant may be added to the film structure (col. 18, ll. 14-19) indicates that slip agent can be included in layers other than the surface layers (Ans. 6-7). The Examiner argues that Longmoore discloses that "slip

agent is frequently incorporated into the core layer of composite films, which are then heat treated to force it to migrate to the surface layers” (col. 4, ll. 37-39) (Ans. 7).

Longmoore, however, teaches that such migration is undesirable because it results in slip agent being present where it is not needed (col. 4, ll. 39-44). The Examiner has not established that in view of that disclosure, one of ordinary skill in the art would have been led to include a slip agent in Schoenberg’s interior layers, particularly in an amount greater than in the surface layers.

The Examiner argues that one of ordinary skill in the art would have included slip agents in Schoenberg’s interior layers to control bloom of the slip agents to the film surface (Ans. 8), but the Examiner has not established that the applied prior art would have led one of ordinary skill in the art to do so, particularly in view of Longmoore’s disclosure that slip agent can migrate to the core where it is not needed (col. 4, ll. 39-42).

Thus, it appears that the Examiner’s reason for including slip agent in Schoenberg’s interior layers comes from the Appellants’ disclosure rather than coming from the applied prior art, which is impermissible hindsight. *See In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967) (“A rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art”).

Conclusion of Law

The Appellants have shown reversible error in the Examiner’s determination that the applied prior art would have rendered prima facie obvious, to one of ordinary skill in the art, a multilayer film comprising

1) first and second outer layers separated by a substrate layer, each layer comprising a primary fatty amidic wax, the outer layers comprising 15 to 50% of the amount of primary fatty amidic wax in the substrate layer (claim 14), or 2) in order, a first outer layer, a first substrate layer, a core layer, a second substrate layer, and a second outer layer, each of the outer layers and substrate layers comprising a primary polyamidic wax, each of the first and second outer layers comprising 15 to 50% of the amount of primary fatty amidic wax in its respective substrate layer (claim 7).

DECISION/ORDER

The rejection of claims 7, 8, 10-15, 17-22, 26 and 27 under 35 U.S.C. § 103 over Schoenberg in view of Longmoore, Plume and the Appellants' admitted prior art is reversed.

It is ordered that the Examiner's decision is reversed.

REVERSED

tc

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